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October 31, 2003
Project No. PTKM-001-2

Mr. Don Pettit
Oregon Department of Environmental Quality
2020 SW Fourth Ave., Suite 400
Portland, OR 97201

Re: **Groundwater Monitoring Report/Project Update Report**
Third Quarter 2003
Kinder Morgan Liquid Terminals, LLC
Linnton Terminal
Portland, Oregon
DEQ No. WPMVC-WMCVC-NWR-00-17

Dear Mr. Pettit:

Delta Environmental Consultants, Inc. (Delta) has prepared this groundwater monitoring/project update report on behalf of Kinder Morgan Liquid Terminals, LLC (KMLT) for the KMLT Linnton Terminal located at 11400 NW St Helens Road in Portland, Oregon (Figure 1). On July 29 and 30, 2003, 32 groundwater monitoring wells and piezometers were monitored, and 15 wells were sampled by Delta. In addition, monthly separate phase hydrocarbon (SPH) recovery was performed on each well containing SPH during the reporting period. The approximate site boundaries, site structures, and the approximate locations of the monitoring wells are presented in Figure 2. Quarterly groundwater monitoring is currently being conducted at the site in accordance with the Remedial Investigation (RI) Work Plan dated February 2002. Field procedures were performed in accordance with Delta's standard operating procedures for quality assurance and quality control (QA/QC).

THIRD QUARTER SAMPLING RESULTS

Groundwater monitoring field activities conducted on July 29 and 30, 2003 consisted of collecting water level measurements in Wells MW-1 through MW-22, P-1 through P-5 and RW-1 through RW-5 as well as measuring parameters and collecting samples from Wells MW-4, MW-7 through MW-10, MW-12 through MW-18, and MW-20 through MW-22.

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The parameters measured in the wells consisted of water level measurements, pH, dissolved oxygen (DO), specific conductance, and temperature. The static water levels were measured in Wells MW-1 through MW-22, P-1 through P-5 and RW-1 through RW-5 on July 29, 2003. Water level measurements were obtained by slowly lowering an electronic water level indicator into the well until the instrument indicated that the groundwater surface had been encountered. The measurement was made from a location permanently marked on the top of the casing to within the nearest 0.01 foot. If SPH was present in any of the monitoring wells, the thickness of the layer was measured and recorded. Each water level measurement was repeated at least once to verify the accuracy of the initial measurement. All measurements were recorded on field sampling forms (Attachment A). Prior to collecting groundwater samples, each monitoring well was purged of at least three casing volumes of water. All fifteen wells were purged using clean, disposable bailers and new nylon cord or a centrifugal pump with disposal tubing. Prior to sampling, the wells were allowed to recover to approximately 80% or more of static water level. A total volume of approximately 148 gallons of water was purged from the wells. The purge water generated during this monitoring event was pumped into a 200-gallon polyethylene tank on-site for future disposal.

After purging each monitoring well, groundwater samples were collected using new disposable bailers. The water samples were placed in laboratory-prepared containers provided by North Creek Analytical (NCA) of Beaverton, Oregon. Each sample was appropriately labeled so as to identify the sample number, project name, facility number, the date and time of sample collection, and the sampler's name. Each sample was immediately placed in a chilled cooler for storage, and samples were transported to the laboratory using strict chain-of-custody protocols.

The groundwater samples were submitted to NCA on July 31, 2003. The water samples were analyzed for gasoline range hydrocarbons (TPH-Gx) by NW TPH-Gx Methods, diesel and heavy oil range hydrocarbons (TPH-Dx) by NW TPH-Dx Methods, benzene, toluene, ethylbenzene, and total xylenes (BTEX) by Environmental Protection Agency (EPA) Method 8021B, polycyclic aromatic hydrocarbons (PAHs) by EPA Method 8270M-SIM, and total metals by EPA 6000/7000 Series Methods.

Based on the groundwater level measurements taken during this monitoring event, the groundwater flow direction appears to be generally to the northeast, toward the Willamette River. Generally, the groundwater flow direction is consistent with those of past monitoring events. Figure 2 illustrates the current approximate water level elevation contours and gradient.

Depth to groundwater in the measured wells ranged from 15.03 feet below top of casing in Well MW-3 to 24.46 feet below top of casing in Well MW-5. SPH was detected in eleven of the wells, MW-1, MW-2, MW-3, MW-11, MW-19, P-5, and RW-1 through RW-5. The current and historic groundwater elevation data have been summarized in Table 1.

Benzene was detected above the laboratory method reporting limit (MRL) in nine wells at concentrations ranging from 0.940 micrograms per liter ($\mu\text{g}/\text{L}$) in Well MW-12 to 519 $\mu\text{g}/\text{L}$ in Well MW-9. Concentrations in regards to BTEX constituents in Well MW-13 have increased over the past quarter. All other monitoring wells are relatively consistent with the past monitoring events.

PAHs were detected above the laboratory MRL in seven wells at concentrations ranging from 0.208 µg/L of chrysene in Well MW-8 to 70.6 µg/L of acenaphthene in Well MW-8.

Concentrations of TPH as gasoline were detected above laboratory MRLs in 10 sampled wells, ranging from 125 µg/L in MW-4 to 3,730 µg/L in Well MW-21. Concentrations of TPH as diesel were detected above laboratory MRLs in 11 sampled wells, ranging from 457 µg/L in Well MW-9 to 99,100 µg/L in Well MW-10. A concentration of TPH as heavy oil was detected above the laboratory MRL in one sampled well, MW-16, at a concentration of 5,870 µg/L. Overall, concentrations of gasoline range hydrocarbons increased in Wells MW-5, MW-12, and MW-21, while decreasing in Wells MW-8 through MW-10, MW-13, MW-16, MW-20, and MW-22. Diesel range hydrocarbon concentrations increased in Wells MW-4, MW-9, MW-13, MW-17, MW-20, and MW-22, while decreasing in MW-8, MW-10, MW-16, and MW-21. Heavy-oil range hydrocarbons remained relatively constant during the third quarter.

Concentrations of seven total metals were detected above the laboratory MRL in all sampled wells. Concentrations ranged from 0.000854 mg/L of mercury in Well MW-16 to 5.83 mg/L of barium in Well MW-16. The total metal concentrations were typical of previous sampling events.

Based on a review of the laboratory reports, it appears that the submitted water samples were analyzed within the specified holding times, and that the appropriate QA/QC procedures were followed during analysis. A summary of the laboratory analytical results is presented in Tables 2, 3, and 4. A complete copy of the laboratory report and chain-of-custody documentation is included in Attachment B.

ACTIVITIES COMPLETED DURING THE THIRD QUARTER OF 2003

- Quarterly groundwater sampling in selected monitoring wells.
- Monthly SPH removal from Wells MW-1, MW-2, 3, 11, 19 and RW-1 through RW-5.
- Weekly inspections of the seep area. The absorbent booms were removed during the quarter due to the low river level and the absence of sheens. The booms will be redeployed once the river rises to an appropriate level.

ACTIVITIES SCHEDULED FOR THE FOURTH QUARTER OF 2003

- Perform monthly SPH removal from wells that have historically contained SPH.
- Sample selected monitoring wells during the October 2003 sampling event (fourth quarter event).
- Perform weekly inspections of the containment booms in the seep area.
- Submit IRAM Design Report to DEQ.
- Install IRAM to address seep area.

- Further definition of SPH in the subsurface near MW-16.
- Finalize RI report.

CONCLUSIONS

Groundwater will continue to be monitored on a quarterly basis. The next sampling event will be conducted during the fourth quarter 2003. However, Delta will be preparing a letter presenting an evaluation of the current groundwater monitoring program. This evaluation may identify appropriate changes to the program (such as fewer laboratory analyses sampling frequency).

Please contact Mr. Kelly Kline at (503) 639-8098 if you have any questions regarding this report or any other aspect of this project.

Sincerely,
Delta Environmental Consultants, Inc.


Kelly A. Kline, R.G.
Senior Geologist



Attachments: Table 1 - Groundwater Elevation and SPH Data
Table 2 - Groundwater Sample Analytical Results- TPH, BTEX-N
Table 3 - Groundwater Sample Analytical Results- PAHs
Table 4 - Groundwater Sample Analytical Results- Total Metals
Figure 1 - Site Location Map
Figure 2 - Groundwater Elevation Contours and SPH Thickness
Attachment A - Field Forms
Attachment B - Certified Analytical Reports and Chain-of-Custody Documentation

cc: Mr. Steve Osborn, Kinder Morgan Energy Partners
Ms. Jeni Crawley, Kinder Morgan Energy Partners

TABLE 1
GROUNDWATER ELEVATION AND SPH RECOVERY DATA
Kinder Morgan Liquid Terminals LLC
Linnton Terminal
Portland, Oregon

Well Identification (TOC)	Date Gauged	Depth to Water (ft)	Depth to SPH (ft)	SPH Thickness (ft)	Groundwater Elevation ¹ (ft)	Recovered by Quarter (gallons)
MW-1 (27.98)	02/01/02	13.34	13.34	sheen	14.64	-
	04/24/02	13.26	13.26	sheen	14.72	-
	07/29/02	15.82	15.80	0.02	12.18	0.41
	10/29/02	18.41	18.40	0.01	9.58	-
	11/26/02*	17.91	17.81	0.10	10.15	-
	12/30/02	15.63	15.63	sheen	0.01	0.56
	01/28/03	15.15	NP	0.00	12.83	0.00
	04/29/03	13.15	NP	0.00	14.83	0.00
	7/29/03 ²	16.31	16.31	sheen	11.67	0.60
MW-2 (28.47)	01/29/02	14.27	13.60	0.67	14.74	2.50
	04/24/02	13.96	13.37	0.59	14.98	0.55
	07/29/02	16.50	16.16	0.34	12.24	1.20
	10/29/02	18.93	18.92	0.01	9.55	1.30
	11/26/02*	18.82	18.52	0.30	9.89	-
	12/30/02	16.81	16.33	0.48	12.04	-
	01/28/03	16.04	15.70	0.34	12.70	0.65
	04/29/03	13.81	13.27	0.54	15.09	1.10
	07/29/03	17.23	16.92	0.31	11.49	5.00
MW-3 (28.97)	01/29/02	13.04	12.86	0.18	16.07	0.25
	04/24/02	13.11	13.00	0.11	15.95	0.40
	07/29/02	14.69	14.42	0.27	14.50	0.55
	10/29/02	16.11	NP	Sheen	12.86	0.51
	11/26/02*	16.08	15.72	0.36	13.18	-
	01/28/03	14.15	14.07	0.08	14.88	0.35
	04/29/03	12.75	12.71	0.04	16.25	0.45
	07/29/03	15.03	14.83	0.20	14.10	1.05
MW-4 (32.88)	02/01/02	17.74	NP	0.00	15.14	-
	04/24/02	17.49	NP	0.00	15.39	-
	07/29/02	20.19	NP	0.00	12.69	-
	10/29/02	22.72	NP	0.00	10.16	-
	01/28/03	19.82	NP	0.00	13.06	-
	04/29/03	17.29	NP	0.00	15.59	-
	07/29/03	20.54	NP	0.00	12.34	-
MW-5 (40.08)	01/31/02	21.73	NP	0.00	18.35	-
	04/24/02	21.76	NP	0.00	18.32	-
	07/29/02	23.87	NP	0.00	16.21	-
	10/29/02	DRY	NP	0.00	DRY	-
	01/28/03	23.81	NP	0.00	16.27	-
	04/29/03	20.95	NP	0.00	19.13	-
	07/29/03	24.46	NP	0.00	15.62	-
MW-6 (36.93)	02/01/02	16.77	NP	0.00	20.16	-
	04/24/02	17.82	NP	0.00	19.11	-
	07/29/02	20.85	NP	0.00	16.08	-
	10/29/02	21.51	NP	0.00	15.42	-
	01/28/03	19.72	NP	0.00	17.21	-
	04/29/03	15.88	NP	0.00	21.05	-
	07/29/03	DRY	NP	0.00	DRY	-

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Well Identification (TOC)	Date Gauged	Depth to Water (ft)	Depth to SPH (ft)	SPH Thickness (ft)	Groundwater Elevation ¹ (ft)	Recovered by Quarter (gallons)
MW-7 (32.26)	01/31/02	17.74	NP	0.00	14.52	-
	04/24/02	17.81	NP	0.00	14.45	-
	07/29/02	20.06	NP	0.00	12.20	-
	10/29/02	22.40	NP	0.00	9.86	-
	01/28/03	19.02	NP	0.00	13.24	-
	04/29/03	16.23	NP	0.00	16.03	-
	07/29/03	20.52	NP	0.00	11.74	-
MW-8 (30.06)	02/01/02	17.01	NP	0.00	13.05	-
	04/24/02	16.58	NP	0.00	13.48	-
	07/29/02	19.32	NP	0.00	10.74	-
	10/29/02	20.83	NP	0.00	9.23	-
	01/28/03	18.47	NP	0.00	11.59	-
	04/29/03	16.93	NP	0.00	13.13	-
	07/29/03	20.06	NP	0.00	10.00	-
MW-9 (30.45)	02/01/02	15.25	NP	0.00	15.20	-
	04/24/02	15.49	NP	0.00	14.96	-
	07/29/02	16.71	NP	0.00	13.74	-
	10/29/02	18.77	NP	0.00	11.68	-
	01/28/03	16.35	NP	0.00	14.10	-
	04/29/03	14.31	NP	0.00	16.14	-
	07/29/03	17.55	NP	0.00	12.90	-
MW-10 (30.32)	02/01/02	11.84	NP	0.00	18.48	-
	04/24/02	14.00	NP	0.00	16.32	-
	07/29/02	18.08	17.03	1.05	13.08	0.50
	10/29/02	20.86	20.72	0.14	9.57	0.13
	11/26/02*	19.82	19.81	0.01	10.51	-
	01/28/03	13.84	13.61	0.23	16.66	0.20
	04/29/03	14.36	NP	0.00	15.96	0.01
MW-11 (35.03)	07/29/03	18.51	NP	0.00	11.81	0.01
	01/29/02	19.06	NP	0.00	15.97	0.17
	04/24/02	18.91	18.48	0.43	16.46	0.25
	07/29/02	22.02	20.75	1.27	14.03	0.95
	10/29/02	25.50	23.20	2.30	11.37	1.95
	11/26/02*	25.10	23.05	2.05	11.57	-
	01/28/03	21.00	20.65	0.35	14.31	0.45
MW-12 (34.03)	04/29/03	20.06	18.55	1.51	16.18	0.60
	07/29/03	NA	21.15	>3.0	NA	0.65
	01/31/02	14.85	NP	0.00	19.18	-
	04/24/02	15.32	NP	0.00	18.71	-
	07/29/02	16.77	NP	0.00	17.26	-
	10/29/02	17.99	NP	0.00	16.04	-
	01/28/03	16.21	NP	0.00	17.82	-
	04/29/03	14.99	NP	0.00	19.04	-
	07/29/03	16.56	NP	0.00	17.47	-

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Well Identification (TOC)	Date Gauged	Depth to Water (ft)	SPH Depth to SPH (ft)	SPH Thickness (ft)	Groundwater Elevation ¹ (ft)	Recovered by Quarter (gallons)
MW-13 (35.81)	01/31/02	17.67	NP	0.00	18.14	-
	04/24/02	18.35	NP	0.00	17.46	-
	07/29/02	19.35	NP	0.00	16.46	-
	10/29/02	25.42	NP	0.00	10.39	-
	01/28/03	20.52	NP	0.00	15.29	-
	04/29/03	17.41	NP	0.00	18.40	-
	07/29/03	21.47	NP	0.00	14.34	-
MW-14 (36.54)	01/31/02	17.71	NP	0.00	18.83	-
	04/24/02	18.42	NP	0.00	18.12	-
	07/29/02	21.47	NP	0.00	15.07	-
	10/29/02	23.99	NP	0.00	12.55	-
	01/28/03	20.62	NP	0.00	15.92	-
	04/29/03	16.91	NP	0.00	19.63	-
	07/29/03	22.26	NP	0.00	14.28	-
MW-15 (37.15)	01/31/02	15.12	NP	0.00	22.03	-
	04/24/02	16.13	NP	0.00	21.02	-
	07/29/02	19.93	NP	0.00	17.22	-
	10/29/02	22.59	NP	0.00	14.56	-
	01/28/03	18.26	NP	0.00	18.89	-
	04/29/03	14.28	NP	0.00	22.87	-
	07/29/03	20.63	NP	0.00	16.52	-
MW-16 (38.95)	01/31/02	8.91	NP	0.00	30.04	-
	04/24/02	11.04	NP	0.00	27.91	-
	07/29/02	11.93	NP	0.00	27.02	-
	10/29/02	12.85	12.75	0.10	26.18	0.11
	11/26/02*	12.05	12.00	0.05	26.94	-
	01/28/03	10.11	NP	0.00	28.84	-
	04/29/03	9.85	NP	0.00	29.10	-
	07/29/03	12.14	NP	0.00	26.81	-
MW-17 (36.57)	01/31/02	16.93	NP	0.00	19.64	-
	04/24/02	17.83	NP	0.00	18.74	-
	07/29/02	20.83	NP	0.00	15.74	-
	10/29/02	23.38	NP	0.00	13.19	-
	01/28/03	19.87	NP	0.00	16.70	-
	04/29/03	16.04	NP	0.00	20.53	-
	07/29/03	21.59	NP	0.00	14.98	-
MW-18 (36.66)	04/24/02	19.41	NP	0.00	17.25	-
	07/30/02	22.21	NP	0.00	14.45	-
	10/29/02	24.71	NP	0.00	11.95	-
	01/28/03	21.20	NP	0.00	15.46	-
	04/29/03	17.85	NP	0.00	18.81	-
	07/29/03	23.02	NP	0.00	13.64	-

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Well Identification (TOC)	Date Gauged	Depth to Water (ft)	Depth to SPH (ft)	SPH Thickness (ft)	Groundwater Elevation ¹ (ft)	Recovered by Quarter (gallons)
MW-19 (30.34)	04/29/03 07/29/03	14.88 19.75	14.80 17.94	0.08 1.81	15.52 12.04	3.00 8.50
MW-20 (30.25)	04/29/03 07/29/03	13.42 18.26	NP NP	0.00 0.00	16.83 11.99	- -
MW-21 (30.62)	04/29/03 07/29/03	8.12 17.02	NP NP	0.00 0.00	22.50 13.60	- -
MW-22 (30.19)	04/29/03 07/29/03	15.61 19.75	NP NP	0.00 0.00	14.58 10.44	- -
P-1 (37.89)	01/31/02 04/24/02 07/30/02	- 19.31 19.72	NP NP NP	0.00 0.00 0.00	- 18.58 18.17	- - -
	10/29/02			Unable to Locate		
	01/28/03	19.67	NP	0.00	18.22	-
	04/29/03	17.71	NP	0.00	20.18	-
	07/29/03	19.94	NP	0.00	17.95	-
P-2 (36.54)	01/31/02 04/24/02 07/30/02 10/29/02 01/28/03 04/29/03 07/29/03	- 13.99 15.55 16.52 14.66 12.98 15.10	NP NP NP NP NP NP NP	0.00 0.00 0.00 0.00 0.00 0.00 0.00	- 22.55 20.99 20.02 21.88 23.56 21.44	- - - - - - -
P-3 (33.53)	01/29/02 04/24/02 07/30/02 10/29/02 01/28/03 04/29/03 07/29/03	16.93 17.58 18.90 19.68 18.16 17.29 18.81	NP NP NP NP NP NP NP	0.00 0.00 0.00 0.00 0.00 0.00 0.00	16.60 15.95 14.63 13.85 15.37 16.24 14.72	- - - - - - -
P-4 (31.75)	01/29/02 04/24/02 07/30/02 10/29/02 01/28/03 04/29/03 07/29/03	16.60 15.91 17.18 22.26 18.08 15.55 18.73	NP NP NP NP 17.98 NP NP	0.00 0.00 0.28 0.00 0.10 0.00 0.00	15.15 15.84 14.79 DRY 13.75 16.20 13.02	- - - - - - -
P-5 (29.75)	01/29/02 04/24/02 07/30/02 10/29/02 01/28/03 04/29/03 07/29/03	14.41 14.40 16.35 18.09 14.96 14.61 19.98	NP NP 16.31 18.17 14.95 14.60 17.96	0.00 0.00 0.04 0.08 0.01 0.01 2.02	15.34 15.35 13.43 11.72 14.80 15.15 11.39	- - - - - - -

TABLE 1
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 Kinder Morgan Liquid Terminals LLC
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 Portland, Oregon

Well Identification (TOC)	Date Gauged	Depth to Water (ft)	SPH Depth to SPH (ft)	SPH Thickness (ft)	Groundwater Elevation ¹ (ft)	SPH Recovered by Quarter (gallons)
RW-1 (28.66)	10/30/02	19.36	NP	0.00	9.30	0.65
	11/26/02*	18.92	18.58	0.34	10.01	-
	01/28/03	16.19	15.94	0.25	12.67	1.65
	04/29/03	14.13	13.67	0.46	14.90	1.05
	07/29/03	18.70	17.04	1.66	11.29	9.00
RW-2 (28.97)	10/30/02	19.48	NP	0.00	9.49	0.90
	11/26/02*	18.93	18.82	0.11	10.13	-
	01/28/03	19.77	15.86	3.91	12.33	17.25
	04/29/03	17.36	13.73	3.63	14.51	6.75
RW-3 (29.23)	07/29/03	19.54	17.23	2.31	11.28	9.00
	10/30/02	22.11	19.50	2.61	9.21	13.50
	11/26/02*	22.96	18.81	4.15	9.59	-
	01/28/03	22.58	15.98	6.60	11.93	30.00
RW-4 (29.69)	04/29/03	18.11	13.97	4.14	14.43	18.50
	07/29/03	19.63	16.66	2.97	11.98	8.25
	10/30/02	20.27	NP	0.00	9.42	-
	01/28/03	18.00	16.58	1.42	12.83	7.50
RW-5 (29.83)	04/29/03	16.96	14.59	2.37	14.63	6.50
	07/29/03	18.76	18.50	0.26	11.14	0.70
	10/30/02	20.32	NP	0.00	9.51	0.01
	01/28/03	15.95	NP	Sheen	13.88	0.05
	04/29/03	15.31	NP	Sheen	14.52	0.25
	07/29/03	19.17	19.10	0.07	10.72	0.10

NOTES:

NP = No Measurable Product

¹ = Elevation relative to 1988 North American Vertical Datum (NAVD)

= Not Sampled. Sheen observed during gauging. SPH measured after purging at 0.05 ft. thickness.

- = Not measured, not analyzed, not sampled or not applicable

Groundwater elevations corrected for product thickness using formula:

GWE = TOC - DTW - (0.8 x (DTW - DTP)) where 0.8 is the density of the SPH

* = Additional RI Sampling

TABLE 2
GROUNDWATER ANALYTICAL RESULTS - TPH BTEX
Kinder Morgan Liquid Terminals LLC
Linnton Terminal
Portland, Oregon

Sample ID	Sample Date	Benzene ($\mu\text{g/L}$)	Ethyl-benzene ($\mu\text{g/L}$)	Gasoline ($\mu\text{g/L}$)	Naphthalene ($\mu\text{g/L}$)	Toluene ($\mu\text{g/L}$)	Xylene (total) ($\mu\text{g/L}$)	Diesel ($\mu\text{g/L}$)	Heavy Oil ($\mu\text{g/L}$)
MW-1	02/01/02	2.50 U	2.50 U	2,610	31.5	2.50 U	5.00 U	NA	NA
	11/26/02*	1.00 U	1.00 U	797	2.00 U	1.00 U	3.00 U	30,000	3,700
	01/29/03	1.00 M	1.00 M	3,610	20.0 M	1.00 M	2.00 M	118,000	13,700
	04/30/03	0.500 M	0.500 M	1,390	2.00 M	0.500 M	1.00 M	129,000	14,100
MW-2	11/26/02*	1.00 U	1.00 U	1,350	23.3	1.00 U	3.00 U	148,000	14,100
MW-3	11/26/02*	1.00 U	1.00 U	1,280	2.31	1.00 U	3.00 U	198,000	500 U
MW-4	02/01/02	0.500 U	0.500 U	884	2.00 U	0.500 U	1.00 M	NA	NA
	05/01/02	2.50 U	2.50 U	2,610	31.5 J	2.50 U	5.00 U	NA	NA
	07/29/02	0.500 M	0.500 M	169	0.500 M	0.500 M	1.00 M	12,600	500 M
	10/30/02	0.500 M	0.500 M	479	3.50 M	0.500 M	1.00 M	33,000	500 M
	01/29/03	0.500 M	0.500 M	326	1.20 M	0.500 M	1.00 M	16,900	500 M
	04/30/03	0.500 M	0.500 M	119	2.50 M	0.500 M	1.00 M	10,800	500 M
	07/29/03	0.500 M	0.764	125	NA	0.504	4.39	50,100	2,500 M
MW-4-DUP	10/30/02	0500 M	0.500 M	535	2.00 M	0.500 M	1.00 M	2,480	500 M
MW-5	02/01/02	0.500 U	0.500 U	80.0 U	2.00 U	0.500 U	1.00 U	NA	NA
	04/24/02	0.500 U	0.500 U	80.0 U	2.00 U	0.500 U	1.00 M	250 U	500 U
	07/30/02	0.500 M	0.500 M	50.0 M	0.100 M	0.500 M	1.00 M	NA	NA
	01/28/03	0.500 M	0.500 M	80.0 M	0.100 M	0.500 M	1.00 M	563	500 M
	04/30/03	0.500 M	0.500 M	80.0 M	0.200 M	0.500 M	1.00 M	472	500 M
MW-6	02/01/02	30.6	12.4	2,270	2.00 U	12	11.3	NA	NA
	04/24/02	37.1	6.03	2,140	2.00 U	6.34	8.45	250 U	500 U
	07/30/02	16.6	1.92	1,730	2.00 M	1.51	5.86	NA	NA
	01/29/03	6.84	1.22	1,800	2.00 M	1.52	2.39	250 M	500 M
	04/29/03	31.3	2.30	2,080	1.70 M	4.34	1.51	250 M	500 M
MW-7	01/31/02	0.500 U	0.500 U	80.0 U	2.00 U	0.500 U	1.00 U	NA	NA
	04/24/02	0.500 U	0.500 U	80.0 U	2.00 U	0.500 U	1.00 U	250 U	500 U
	07/29/02	0.500 M	0.500 M	50.0 M	0.100 M	0.500 M	1.00 M	250 M	500 M
	10/29/02	0.500 M	0.500 M	98.7	0.100 M	0.500 M	1.00 M	250 M	500 M
	01/28/03	0.500 M	0.500 M	80.0 M	0.100 M	0.500 M	1.00 M	250 M	500 M
	04/29/03	0.500 M	0.500 M	80.0 M	0.250 M	0.500 M	1.00 M	250 M	500 M
	07/29/03	0.500 M	0.500 M	80.0 M	NA	0.500 M	1.00 M	250 M	500 M
MW-8	02/01/02	10.8	22.3	2,350	4.92	10	8.31	NA	NA
	04/25/02	2.85	13.4	1,190	7.64	4.45	4.52	250 U	500 U
	07/29/02	10.2	27.8	1,900	41.0	4.02	14.8	3,340	500 M
	10/30/02	1.88	3.89	764	0.772	0.691	9.86	1,170	500 M
	01/29/03	15.8	27.6	2,340	5.89	4.80	8.76	3,390	500 M
	04/30/03	11.8	30.1	1,810	23.1	2.11	10.4	2,250	500 M
	07/29/03	8.38	5.23	887	NA	2.50	5.80	961	500 M
MW-9	02/01/02	357	2.50 M	1,730	10.0 U	4.48	5.00 M	NA	NA
	04/25/02	312	5.47	1,360	10.0 U	6.84	9.44	250 U	500 U
	07/29/02	727	6.54	2,850	1.00 M	7.44	12.2	250 M	500 M
	10/30/02	511	6.14	1,420	1.00 M	11.4	10.0 M	486	500 M
	01/29/03	193	2.50 M	1,390	0.500 M	2.66	5.00 M	402	500 M
	04/30/03	663	11.6	3,440	2.30 M	9.36	11.1	250 M	500 M
	07/30/03	519	8.51	2,060	NA	10.8	17.3	457	500 M
MW-10	02/01/02	15.5	6.97	3,590	10.0 M	7.7	5.89	NA	NA
	04/25/02	16.7	7.65	4,470	4.00 U	8.48	9.13	3,850	500 U
	11/27/02*	3.17	1.00 U	3,630	2.00 U	2.41	2.49	15,200	500 U
	04/30/03	15.4	6.63	3,630	100 M	9.14	5.00 M	483,000	5,000 M
	07/30/03	9.23	5.95	3,320	NA	6.60	8.52	99,100	10,000 M

TABLE 2
GROUNDWATER ANALYTICAL RESULTS - TPH BTEX
Kinder Morgan Liquid Terminals LLC
Linnton Terminal
Portland, Oregon

Sample ID	Sample Date	Benzene ($\mu\text{g/L}$)	Ethyl-benzene ($\mu\text{g/L}$)	Gasoline ($\mu\text{g/L}$)	Naphthalene ($\mu\text{g/L}$)	Toluene ($\mu\text{g/L}$)	Xylene (total) ($\mu\text{g/L}$)	Diesel ($\mu\text{g/L}$)	Heavy Oil ($\mu\text{g/L}$)
MW-10 DUP	02/01/02	18	7.83	4,010	10.0 U	8.7	6.7	NA	NA
MW-12	01/31/02	0.500 U	0.500 U	1,320	2.00 U	0.500 U	1.00 U	NA	NA
	04/25/02	1.00 U	1.00 U	1,970	4.00 U	1.00 U	2.00 U	4,030	500 U
	07/29/02	0.721	0.500 M	1,110	2.50 M	0.526	5.60	11,100	500 M
	10/29/02	1.00 M	13.6	3,630	2.50 M	6.61	3.11	5,540	500 M
	01/28/03	0.500 M	0.500 M	1,250	3.00 M	0.534	1.00 M	110,000	10000 M
	04/29/03	0.500 M	0.500 M	740	1.50 M	0.547	2.55	14,500	500 M
	07/29/03	0.940	1.50	832	NA	0.717	3.57	2,000	500 M
MW-12 DUP	07/29/02	0.729	0.500 M	1,140	5.00 M	0.534	5.68	5,180	500 U
MW-13	01/31/02	109	8.9	6,150	10.0 U	6.74	5.00 M	NA	NA
	04/25/02	48.5	9.14	5,700	10.0 U	7.56	5.00 U	250 U	500 U
	07/29/02	2.63	2.88	3,330	0.100 M	1.6	7.76	2,690	500 M
	10/29/02	4.68	2.38	2,320	4.00 M	3.35	6.37	2,180	762
	01/28/03	2.71	2.56	2,220	1.20 M	3.22	6.52	2,230	500 M
	04/29/03	107	5.72	6,160	2.50 M	3.56	5.00 M	833 M	1670 M
	07/29/03	3.23	1.84	2,130	NA	2.48	4.91	546	500 M
MW-13 DUP	01/31/02	102	8.7	6,110	10.0 U	6.86	5.00 M	NA	NA
	04/25/02	51.8	8.76	5,720	10.0 U	8.62	5.00 U	250 U	500 U
	10/29/02	5.82	2.45	2,350	3.00 M	3.10	5.89	2,020	1,000
	01/28/03	2.35	2.51	2,480	1.30 M	3.05	6.26	1,880	500 M
MW-14	01/31/02	0.500 U	0.500 U	80.0 U	2.00 U	0.500 U	1.00 U	NA	NA
	04/24/02	0.500 U	0.500 U	80.0 M	2.00 U	0.500 U	1.00 U	250 U	500 U
	07/30/02	0.500 M	0.500 M	50.0 M	0.100 M	0.500 M	1.00 M	305 M	610 M
	10/29/02	0.500 M	0.500 M	80.0 M	0.100 M	0.500 M	1.00 M	250 M	500 M
	01/29/03	0.500 M	0.500 M	80.0 M	0.100 M	0.500 M	1.00 M	250 M	500 M
	04/29/03	0.500 M	0.500 M	160	0.100 M	0.500 M	1.00 M	250 M	500 M
	07/29/03	0.500 M	0.500 M	80.0 M	NA	0.500 M	1.00 M	250 M	500 M
MW-15	01/31/02	0.500 U	0.500 U	80.0 U	2.00 U	0.500 U	1.00 U	NA	NA
	04/24/02	0.500 U	0.500 U	80.0 U	2.00 U	0.500 U	1.00 U	250 U	500 U
	07/30/02	0.500 M	0.500 M	50.0 M	0.100 M	0.500 M	1.00 M	250 M	500 M
	10/29/02	0.500 M	0.500 M	80.0 M	0.100 M	0.500 M	1.00 M	250 M	500 M
	01/29/03	0.500 M	0.500 M	80.0 M	0.100 M	0.500 M	1.00 M	250 M	500 M
	04/29/03	0.500 M	0.500 M	80.0 M	0.137	0.500 M	1.00 M	250 M	500 M
	07/29/03	0.500 M	0.500 M	80.0 M	NA	0.500 M	1.00 M	250 M	500 M
MW-15 DUP	04/29/03	0.500 M	0.500 M	80.0 M	0.100 M	0.500 M	1.00 M	250 M	500 M
	07/29/03	0.500 M	0.500 M	80.0 M	NA	0.785	1.48	250 M	500 M
MW-16	02/01/02	49.1	4.42	3,620	10.0 M	12.6	7.61	NA	NA
	04/25/02	46	2.50 U	3,570	10.0 U	14	8.73	4,040	1,050
	07/30/02	83.6	2.73	1,920	2.50 M	14.0	11.0	4,740	1000 M
	11/27/02*	79.9	1.00 U	2,000	2.00 U	11.3	3.84	2,660	1,160
	01/28/03	40.5	4.35	2,930	1.80 M	13.4	10.6	30,400	17,600
	04/29/03	43.7	3.06	2,300	2.00 M	13.0	8.68	12,900	5,160
	07/29/03	65.7	2.91	1,420	NA	10.1	6.98	11,100	5,870
MW-16 DUP	07/30/02	79.3	3.31	1,950	2.50 M	14.4	13.0	6,240	2,060
	01/28/03	34.2	2.50	3,500	2.20 M	10.3	10.9	35,100	13,100

TABLE 2
GROUNDWATER ANALYTICAL RESULTS - TPH BTEX
 Kinder Morgan Liquid Terminals LLC
 Linnton Terminal
 Portland, Oregon

Sample ID	Sample Date	Benzene (µg/L)	Ethyl-benzene (µg/L)	Gasoline (µg/L)	Naphthalene (µg/L)	Toluene (µg/L)	Xylene (total) (µg/L)	Diesel (µg/L)	Heavy Oil (µg/L)
MW-17	01/31/02	0.500 U	0.500 U	93.8	2.00 U	0.500 U	1.00 U	NA	NA
	04/24/02	0.500 U	0.500 U	126	2.00 M	0.500 U	1.00 M	360	500 U
	07/30/02	0.500 M	0.702	199	1.00 M	0.500 M	2.72	352	500 M
	10/30/02	0.500 M	0.500 M	80.0 M	1.00 M	0.500 M	1.00 M	250 M	500 M
	01/29/03	0.500 M	0.500 M	80.0 M	0.100 M	0.500 M	1.00 M	250 M	500 M
	04/29/03	0.500 M	0.500 M	118	0.300 M	0.500 M	1.00 M	256	500 M
	07/29/03	0.500 M	0.500 M	109	NA	0.749	1.00 M	553	500 M
MW-17 DUP	04/29/03	0.500 M	0.500 M	80.0 M	0.350 M	0.500 M	1.00 M	250 M	500 M
	07/29/03	0.500 M	0.500 M	80.0 M	NA	0.500 M	1.00 M	452	500 M
MW-18	04/25/02	0.500 U	0.500 U	80.0 U	2.00 U	0.500 U	1.00 U	250 U	500 U
	07/29/02	0.500 M	0.500 M	50.0 M	0.100 M	0.500 M	1.00 M	250 M	500 M
	10/30/02	0.500 M	0.500 M	80.0 M	0.100 M	0.500 M	1.00 M	250 M	500 M
	01/29/03	0.500 M	0.500 M	80.0 M	0.100 M	0.500 M	1.00 M	250 M	500 M
	04/29/03	0.500 M	0.500 M	80.0 M	0.100 M	0.500 M	1.00 M	250 M	500 M
	07/30/03	0.500 M	0.500 M	80.0 M	NA	0.500 M	1.00 M	250 M	500 M
MW-18 DUP	04/25/02	0.500 U	0.500 U	80.0 M	2.00 U	0.500 U	1.00 U	250 U	500 U
MW-20	05/01/03	36.5	5.15	3,460	5.00 M	7.12	7.20	5,850	500 M
	07/30/03	45.7	8.15	2,680	NA	7.59	8.07	7,200	500 M
MW-21	05/01/03	3.15	2.92	2,260	3.00 M	4.92	3.51	6,040	500 M
	07/30/03	4.15	4.08	3,730	NA	5.45	10.8	4,830	500 M
MW-22	05/01/03	11.7	2.43	1,330	1.70 M	3.54	4.52	2,570	500 M
	07/30/03	10.4	1.67	1,080	NA	7.04	7.30	2,650	500 M
RW-1	11/26/02*	7.68	16.1	3,930	145	2.00 U	15.5	998,000	45,000
RW-2	11/26/02*	30.3	21.0	1,690	46.7	1.00 U	16.7	243,000	57,700
RW-3	11/26/02*	3.80	7.51	1,430	9.04	1.00 U	3.00 U	678,000	50000 U
Trip Blank	04/24/02	0.500 U	0.500 U	80.0 U	2.00 U	0.500 U	1.00 U	NA	NA
	04/25/02	0.500 U	0.500 U	80.0 U	2.00 U	0.500 U	1.00 U	NA	NA
	07/29/02	0.500 M	0.500 M	50.0 M	NA	0.500 M	1.00 M	NA	NA
	10/29/02	0.500 M	0.500 M	NA	NA	0.500 M	1.00 M	NA	NA

NOTES:

Gasoline Range Hydrocarbons analyzed by NW TPH-Gx Method

Diesel and Heavy Oil Range Hydrocarbons analyzed by NW TPH-DX Method

Benzene, Toluene, Ethylbenzene, Xylene, and Naphthalene (BTEX/N) analyzed by USEPA Method 8021B or 8260B

µg/l = micrograms per liter

Lab reported Diesel and Heavy Oil in mg/l

NA = Not Analyzed

J = Estimated Value

U = Analyte included in the analysis but not detected above laboratory method detection limits (MDLs)

M = Analyte included in the analysis but not detected above laboratory method reporting limits (MRLs)

Bold Face Font = Analyte detected above the MRLs

* = Additional RI Sampling

TABLE 3
GROUNDWATER ANALYTICAL PAH's
 Kinder Morgan Liquid Terminals LLC
 Linnton Terminal
 Portland, Oregon

Sample ID	Sample Date	Acenaphthene (µg/L)	Acenaphthylene (µg/L)	Anthracene (µg/L)	Benzo(a)anthracene (µg/L)	Benzo(a)pyrene (µg/L)	Benzo(b)fluoranthene (µg/L)	Benzo(g,h,i)perylene (µg/L)	Benzo(k)fluoranthene (µg/L)	Chrysene (µg/L)	Dibenzo(a,h)anthracene (µg/L)	Fluoranthene (µg/L)	Fluorene (µg/L)	Indeno(1,2,3-cd)pyrene (µg/L)	Naphthalene (µg/L)	Phenanthrene (µg/L)	Pyrene (µg/L)
MW-1	02/01/02	5.00 U	2.50 U	2.74	0.500 U	0.500 U	0.500 U	0.500 U	0.500 M	1.00 U	0.500 U	20.9	0.500 U	12.5 U	13.3	2.23	
	11/26/2002*	2.26	0.500 U	1.98	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	1.00 U	0.500 U	13.9	0.500 U	5.00 U	11.0	1.48	
	01/29/03	10.0 M	5.00 M	10.8	0.284	0.394	0.322	0.200 M	0.266	1.46	0.400 M	5.00 M	60.6	0.200 M	20.0 M	54.7	6.98
	04/30/03	2.74	1.00 M	2.48	1.00 M	1.00 M	1.00 M	1.00 M	1.00 M	1.00 M	2.00 M	1.00 M	16.5	1.00 M	2.00 M	12.7	2.00
MW-2	11/26/2002*	4.44	1.00 U	2.72	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	2.00 U	1.16	14.8	1.00 U	21.1	15.4	2.24
MW-3	11/26/2002*	10.0 U	10.0 U	3.99	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	1.00 U	0.500 U	33.0 U	0.500 U	10.0 U	22.1	2.98	
MW-4	02/01/02	0.500 U	0.100 U	0.257	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.200 U	0.100 U	2.32	0.100 U	1.00 U	0.725	0.17
	04/25/02	0.500 U	0.100 U	0.368	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.200 U	0.100 U	2.21	0.100 U	0.500 U	0.618	0.192
	07/29/02	0.405	0.100 M	0.500 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.200 M	0.100 M	1.75	0.100 M	0.500 M	0.500 M	0.313
	10/30/02	2.50 M	0.500 M	4.26	0.500 M	0.500 M	0.500 M	0.500 M	0.500 M	0.500 M	1.00 M	0.500 M	8.00	0.500 M	3.50 M	7.64	3.09
	01/29/03	0.800 M	0.400 M	0.860	0.400 M	0.400 M	0.400 M	0.400 M	0.400 M	0.400 M	0.800 M	0.400 M	2.97	0.400 M	1.20 M	2.23	0.600
	04/30/03	2.50 M	2.50 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.200 M	2.50 M	4.88	0.100 M	2.50 M	2.74	0.774
	07/29/03	1.00 M	0.750 M	1.79	0.500 M	0.500 M	0.500 M	0.500 M	0.500 M	0.500 M	1.00 M	0.500 M	5.12	0.500 M	3.25	4.40	1.35
MW-4-DUP	10/30/02	1.50 M	0.500 M	2.18	0.500 M	0.500 M	0.500 M	0.500 M	0.500 M	0.500 M	1.00 M	0.5	4.36	0.500 M	2.00 M	3.60	1.61
MW-5	02/01/02	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.200 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	
	04/24/02	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.200 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	
	01/28/03	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.200 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	
	04/30/03	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.200 M	0.100 M	0.100 M	0.200 M	0.100 M	0.100 M	0.100 M	
MW-6	02/01/02	0.153	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.200 U	0.100 U	0.131	0.100 U	5.00	0.225	0.100 U	
	04/24/02	0.151	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.200 U	0.100 U	0.101	0.100 U	2.00 U	0.214	0.100 U	
	01/29/03	0.129	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.200 M	0.100 M	0.200 M	0.100 M	0.100 M	0.128	0.100 M	
	04/29/03	0.107	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.200 M	0.100 M	0.100 M	0.100 M	0.100 M	0.110	0.100 M	
MW-7	01/31/02	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.200 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	
	04/24/02	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.200 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	
	07/29/02	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.200 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	
	10/29/02	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.200 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	
	01/28/03	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.200 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	
	04/29/03	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.200 M	0.100 M	0.100 M	0.100 M	0.100 M	0.250 M	0.100 M	
	07/29/03	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.200 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	

TABLE 3
GROUNDWATER ANALYTICAL PAH's
Kinder Morgan Liquid Terminals LLC
Linnton Terminal
Portland, Oregon

Sample ID	Sample Date	Acenaphthene ($\mu\text{g/L}$)	Acenaphthylene ($\mu\text{g/L}$)	Anthracene ($\mu\text{g/L}$)	Benz(a)anthracene ($\mu\text{g/L}$)	Benzo(a)pyrene ($\mu\text{g/L}$)	Benzo(b)fluoranthene ($\mu\text{g/L}$)	Benzo(g/h)perylene ($\mu\text{g/L}$)	Benzo(k)fluoranthene ($\mu\text{g/L}$)	Chrysene ($\mu\text{g/L}$)	Dibenz(a,h)anthracene ($\mu\text{g/L}$)	Fluoranthene ($\mu\text{g/L}$)	Fluorene ($\mu\text{g/L}$)	Indeno(1,2,3-cd)pyrene ($\mu\text{g/L}$)	Naphthalene ($\mu\text{g/L}$)	Phenanthrene ($\mu\text{g/L}$)	Pyrene ($\mu\text{g/L}$)
MW-8	02/01/02	18.9	2.00 U	0.759	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.200 U	1.03	12.4	0.100 U	2.56	11.2	1.19	
	04/25/02	40.5	0.500 M	0.606	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.200 U	1.69	18.6	0.100 U	8.36	7.73	1.72	
	07/29/02	57.1	0.100 M	0.629	0.117	0.100 M	0.100 M	0.100 M	0.100 M	0.200 M	1.36	22.3	0.100 M	41.0	7.78	2.34	
	10/30/02	90.3	1.00 M	1.31	0.568	0.723	0.529	0.675	0.500 M	0.733	1.00 M	2.65	43.4	0.500 M	0.772	9.42	3.34
	01/29/03	18.9	1.00 M	0.429	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.200 M	0.697	9.94	0.100 M	5.89	4.72	0.798	
	04/30/03	27.1	5.00 M	0.780	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.200 M	0.854	13.4	0.100 M	23.1	4.21	1.30	
	07/29/03	70.6	0.303	0.688	0.200 M	0.200 M	0.200 M	0.200 M	0.200 M	0.400 M	1.32	33.6	0.200 M	2.94	10.0	1.73	
MW-9	02/01/02	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.200 U	0.100 U	0.100 U	0.100 U	0.500 U	0.100 U	0.100 M	
	04/25/02	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.200 U	0.100 U	0.100 U	0.100 U	1.00 U	0.100 U	0.100 U	
	07/29/02	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.200 M	0.100 M	0.100 M	0.100 M	1.00 M	0.100 M	0.100 M	
	10/30/02	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.200 M	0.100 M	0.100 M	0.100 M	1.00 M	0.100 M	0.100 M	
	01/29/03	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.200 M	0.100 M	0.100 M	0.100 M	0.500 M	0.100 M	0.100 M	
	04/30/03	0.112	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.200 M	0.100 M	0.100 M	0.100 M	2.30 M	0.100 M	0.100 M	
	07/30/03	0.200 M	0.200 M	0.200 M	0.200 M	0.200 M	0.200 M	0.200 M	0.200 M	0.400 M	0.200 M	0.200 M	0.200 M	2.00 M	0.200 M	0.200 M	
MW-10	02/01/02	7.81	0.100 U	0.304	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.200 U	0.447	5.21	0.100 U	5.00 U	1.41	0.512	
	04/25/02	4.39	0.100 U	0.367	0.123	0.108	0.100 M	0.100 M	0.100 M	0.200 U	0.784	3.21	0.100 M	2.50 U	0.903	0.933	
	11/27/02*	10.8	0.500 U	1.56	0.500 U	0.678	0.500 U	0.695	0.500 U	0.605	1.00 U	1.77	10.7	0.500 U	17.0 U	9.62	2.20
	04/30/03	150	100 M	23.1	12.0	10.6	6.90	5.00	7.08	14.9	2.00 M	73.6	163	4.00	100 M	176	76.1
	07/30/03	29.4	6.00 M	5.16	3.40	4.07	3.09	3.24	2.00 M	4.16	4.00 M	10.5	25.5	2.18	32.0 M	22.9	18.8
MW-10-Dup	02/01/02	6.6	0.500 U	0.228	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.200 U	0.387	4.19	0.100 U	5.00 U	0.557	0.451	
MW-12	01/31/02	2.05	0.500 U	0.212	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.200 U	0.100 U	4.34	0.100 U	2.50 U	4.11	0.100 M	
	04/25/02	1.52	0.100 U	0.349	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.200 U	0.100 M	3.32	0.100 U	1.00 U	4.55	0.143	
	07/29/02	5.00 M	0.500 M	0.593	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.200 M	0.500 M	5.33	0.100 M	2.50 M	7.29	0.260	
	10/29/02	1.72	0.100 M	0.353	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.200 M	0.500 M	3.89	0.100 M	2.50 M	5.97	0.123	
	01/28/03	3.33	0.500 M	1.01	0.500 M	0.500 M	0.500 M	0.500 M	0.500 M	0.500 M	1.00 M	0.500 M	6.96	0.500 M	3.00 M	10.5	0.566
	04/29/03	4.00	1.00 M	1.18	1.00 M	1.00 M	1.00 M	1.00 M	1.00 M	2.00 M	1.00 M	9.45	1.00 M	1.50 M	10.9	1.00 M	
	07/29/03	2.23	0.700 M	0.254	0.200 M	0.200 M	0.200 M	0.200 M	0.200 M	0.400 M	0.200 M	4.77	0.200 M	2.20 M	5.09	0.200 M	
MW-12-Dup	07/29/02	2.44	0.500 M	0.655	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.200 M	0.100 M	4.67	0.100 M	5.00 M	5.23	0.293	

TABLE 3
GROUNDWATER ANALYTICAL PAH's
Kinder Morgan Liquid Terminals LLC
Linnton Terminal
Portland, Oregon

Sample ID	Sample Date	Acenaphthene ($\mu\text{g/L}$)	Acenaphthylene ($\mu\text{g/L}$)	Anthracene ($\mu\text{g/L}$)	Benzo(a)anthracene ($\mu\text{g/L}$)	Benzo(a)pyrene ($\mu\text{g/L}$)	Benzo(b)fluoranthene ($\mu\text{g/L}$)	Benzo(g)phenylene ($\mu\text{g/L}$)	Benzo(k)fluoranthene ($\mu\text{g/L}$)	Chrysene ($\mu\text{g/L}$)	Dibenz(a,h)anthracene ($\mu\text{g/L}$)	Fluoranthene ($\mu\text{g/L}$)	Fluorene ($\mu\text{g/L}$)	Indeno(1,2,3-cd)pyrene ($\mu\text{g/L}$)	Naphthalene ($\mu\text{g/L}$)	Phenanthrene ($\mu\text{g/L}$)	Pyrene ($\mu\text{g/L}$)
MW-13	01/31/02	1.62	0.100 U	0.16	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.200 U	0.100 M	3.23	0.100 U	5.00 U	2.61	0.100 M	
	04/25/02	1.25	0.100 U	0.203	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.200 U	0.100 M	2.75	0.100 U	2.00 U	2.63	0.100 M	
	07/29/02	0.858	0.100 M	0.172	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.200 M	0.100 M	1.90	0.100 M	0.100 M	3.61	0.157	
	10/29/02	1.31	0.500 M	1.00 M	0.500 M	0.500 M	0.500 M	0.500 M	0.500 M	1.00 M	0.500 M	2.75	0.500 M	4.00 M	4.91	0.515	
	01/28/03	0.596	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.200 M	0.100 M	1.15	0.100 M	1.20 M	1.13	0.100 M	
	04/29/03	2.69	2.50 M	0.223	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.200 M	0.100 M	5.57	0.100 M	2.50 M	2.94	0.120	
	07/29/03	0.806	0.300 M	0.200 M	0.200 M	0.200 M	0.200 M	0.200 M	0.200 M	0.400 M	0.200 M	1.69	0.200 M	2.20 M	2.86	0.200 M	
MW-13 Dup	01/31/02	1.47	0.100 U	0.144	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.200 U	0.100 M	3.26	0.100 U	2.00 U	3.3	0.100 M	
	04/25/02	1.36	0.100 U	0.138	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.200 U	0.100 M	2.73	0.100 U	2.00 U	2.74	0.100 M	
	10/29/02	0.802	0.100 M	0.250 M	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.200 U	0.100 M	1.68	0.100 M	3.00 M	2.42	0.121	
	01/28/03	0.710	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.200 M	0.100 M	1.40 M	0.100 M	1.30 M	1.11	0.100 M	
MW-14	01/31/02	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.200 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 M	
	04/24/02	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.200 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 M	
	07/30/02	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.200 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	
	10/29/02	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.200 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	
	01/29/03	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.200 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	
	04/29/03	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.200 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	
	07/29/03	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.200 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	
MW-15	01/31/02	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.200 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	
	04/24/02	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.200 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	
	07/30/02	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.200 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	
	10/29/02	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.200 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	
	01/29/03	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.200 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	
	04/29/03	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.200 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	
	07/29/03	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.200 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	
MW-15 DUP	04/29/03	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.200 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	
	07/29/03	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.200 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	

TABLE 3
GROUNDWATER ANALYTICAL PAH's
Kinder Morgan Liquid Terminals LLC
Linnton Terminal
Portland, Oregon

Sample ID	Sample Date	Acenaphthene ($\mu\text{g/L}$)	Acenaphthylene ($\mu\text{g/L}$)	Anthracene ($\mu\text{g/L}$)	Benzo(a)anthracene ($\mu\text{g/L}$)	Benzo(a)pyrene ($\mu\text{g/L}$)	Benzo(b)fluoranthene ($\mu\text{g/L}$)	Benzo(g,h,i)perylene ($\mu\text{g/L}$)	Benzo(k)fluoranthene ($\mu\text{g/L}$)	Chrysene ($\mu\text{g/L}$)	Dibenz(a,h)anthracene ($\mu\text{g/L}$)	Fluoranthene ($\mu\text{g/L}$)	Fluorene ($\mu\text{g/L}$)	Indeno(1,2,3-cd)pyrene ($\mu\text{g/L}$)	Naphthalene ($\mu\text{g/L}$)	Phenanthrene ($\mu\text{g/L}$)	Pyrene ($\mu\text{g/L}$)
MW-16	02/01/02	1.4	0.200 U	0.200 M	0.200 M	0.200 M	0.200 U	0.200 U	0.200 M	0.400 U	0.358	2.97	0.200 U	4.00 U	1.71	0.342	
	04/25/02	1.16	0.100 U	0.256	0.255	0.218	0.208	0.158	0.183	0.273	0.200 U	0.642	2.84	0.138	1.50 U	2.49	0.626
	07/30/02	1.34	0.200 M	0.409	0.312	0.231	0.266	0.200 M	0.200 M	0.476	0.400 M	0.676	2.65	0.200 M	2.50 M	2.97	0.942
	11/27/02*	4.12	1.00 U	2.41	1.27	1.47	2.35	1.00 U	1.00 U	3.15	2.00 U	2.99	11.9	1.00 U	7.40 U	13.5	3.27
	01/28/03	1.24	0.200 M	0.200 M	0.200 M	0.200 M	0.200 M	0.200 M	0.200 M	0.400 M	0.200 M	2.37	0.200 M	1.80 M	1.74	0.235	
	04/29/03	2.78	1.00 M	1.00 M	1.00 M	1.00 M	1.00 M	1.00 M	1.00 M	2.00 M	1.00 M	5.86	1.00 M	2.00 M	4.86	1.00 M	
	07/29/03	2.00	0.500 M	0.614	0.640	0.633	1.06	0.500 M	0.500 M	1.10	1.00 M	1.08	4.16	0.500 M	4.50 M	3.05	1.42
MW-16-Dup	07/30/02	1.36	0.200 M	0.367	0.233	0.200 M	0.200 M	0.200 M	0.200 M	0.374	0.400 M	0.567	2.50	0.200 M	2.50 M	2.80	0.685
	01/28/03	1.33	0.200 M	0.242	0.200 M	0.200 M	0.200 M	0.200 M	0.228	0.400 M	0.298	2.73	0.200 M	2.20 M	2.38	0.368	
MW-17	01/31/02	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.200 U	0.100 U	0.214	0.100 U	0.200 U	0.301	0.100 U	
	04/24/02	0.100 U	0.100 U	0.2100 M	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.200 U	0.100 U	0.100 U	0.100 U	0.100 U	0.187	0.100 U	
	07/30/02	0.100 M	0.100 M	0.200 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.200 M	0.100 M	0.100 M	1.00 M	0.100 M	0.100 M	
	10/30/02	0.100 M	0.100 M	0.200 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.200 M	0.100 M	0.100 M	1.00 M	0.100 M	0.100 M	
	01/29/03	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.200 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	
	04/29/03	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.200 M	0.100 M	0.100 M	0.300 M	0.100 M	0.100 M	
	07/29/03	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.200 M	0.100 M	0.100 M	0.250 M	0.100 M	0.100 M	
MW-17 DUP	04/29/03	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.200 M	0.100 M	0.100 M	0.350 M	0.100 M	0.100 M	0.100 M	
	07/29/03	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.200 M	0.100 M	0.100 M	0.200 M	0.100 M	0.100 M	

TABLE 3
GROUNDWATER ANALYTICAL PAH's
Kinder Morgan Liquid Terminals LLC
Linnton Terminal
Portland, Oregon

Sample ID	Sample Date	Acenaphthene (µg/L)	Acenaphthylene (µg/L)	Anthracene (µg/L)	Benzo(a)anthracene (µg/L)	Benzo(a)pyrene (µg/L)	Benzo(b)fluoranthene (µg/L)	Benzo(g,h)perylene (µg/L)	Benzo(k)fluoranthene (µg/L)	Chrysene (µg/L)	Dibenz(a,h)anthracene (µg/L)	Fluoranthene (µg/L)	Fluorene (µg/L)	Indeno(1,2,3-cd)pyrene (µg/L)	Naphthalene (µg/L)	Phenanthrene (µg/L)	Pyrene (µg/L)
MW-18	04/25/02	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.200 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	
	07/29/02	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.200 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	
	10/30/02	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.200 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	
	01/29/03	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.200 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	
	04/29/03	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.200 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	
	07/30/03	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.200 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	
MW-18 Dup	04/25/02	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.200 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	
MW-20	05/01/03	11.7	2.50 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.200 M	0.368	6.24	0.100 M	5.00 M	0.820	0.495	
	07/30/03	21.8	1.00 M	0.500 M	0.500 M	0.500 M	0.500 M	0.500 M	0.500 M	1.00 M	0.979	9.16	0.500 M	8.00 M	3.61	1.31	
MW-21	05/01/03	6.08	1.00 M	1.00 M	1.00 M	1.00 M	1.00 M	1.00 M	1.00 M	2.00 M	1.00 M	6.13	1.00 M	3.00 M	2.59	1.00 M	
	07/30/03	5.25 M	0.750 M	0.500 M	0.500 M	0.500 M	0.500 M	0.500 M	0.500 M	1.00 M	0.500 M	4.59	0.500 M	6.50 M	2.23	0.704	
MW-22	05/01/03	2.67	0.100 M	0.158	0.100 M	0.100 M	0.100 M	0.100 M	0.100 M	0.200 M	0.726	1.15	0.100 M	1.70 M	0.146	1.09	
	07/30/03	6.14	0.300 M	0.362	0.223	0.219	0.200 M	0.200 M	0.200 M	0.400 M	1.68	1.70	0.200 M	2.60 M	2.22	2.31	
RW-1	11/26/02*	30.0 U	25.0 U	14.3	1.41	1.00 U	1.70	1.00 U	1.00 U	4.19	2.00 U	4.57	130 U	1.00 U	224	87.0	16.1
RW-2	11/26/02*	6.30	0.100 U	2.42	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	1.83	2.00 U	1.21	14.7	1.00 U	56.2	17.7	1.75
RW-3	11/26/2002*	70.0 U	57.1 U	19.5	2.48	2.02	1.43	1.14 U	1.45	5.45	2.29 U	6.02	186 U	1.14 U	100 U	231	18.8

NOTES:

Polynuclear Aromatic Compounds (PAHs) analyzed by USEPA Method 8270M-SIM

µg/l = micrograms per liter

J = Estimated Value

U = Analyte included in the analysis but not detected above laboratory method detection limits (MDLs)

M = Analyte included in the analysis but not detected above laboratory method reporting limits (MRLs)

Bold Face Font = Analyte detected above the MRLs

* = Additional RI Sampling

TABLE 4
GROUNDWATER ANALYTICAL - TOTAL METALS
 Kinder Morgan Liquid Terminals LLC
 Linnton Terminal
 Portland, Oregon

Sample ID	Sample Date	Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Selenium (mg/L)	Silver (mg/L)	Zinc (mg/L)
MW-1	02/01/02	0.0051	0.137J	0.00100 U	0.0019	0.0035	0.00100 M	0.000200 U	0.00100 M	0.00100 U	0.00863
	11/26/02*	0.00576	0.192	0.00100 U	0.00638	0.0165	0.00580	0.000200 U	0.00111	0.00100 U	0.0278
	01/29/03	0.00408	0.142	0.00100 M	0.00216	0.00657	0.00293	0.000400 M	0.00100 M	0.00100 M	0.0113
	04/30/03	0.00451	0.102	0.00100 M	0.00108	0.00200 M	0.00100 M	0.000200 M	0.00123	0.00100 M	0.00500 M
MW-2	11/26/02*	0.0410	0.119	0.00100 U	0.00132	0.00345	0.00497	0.000200 U	0.00100 U	0.00100 U	0.00770
MW-3	11/26/02*	0.0196	0.152	0.00100 U	0.00303	0.00599	0.00247	0.000200 U	0.00140	0.00100 U	0.0144
MW-4	02/01/02	0.00554	0.0916	0.00100 U	0.00100 M	0.00248	0.00100 M	0.000200 U	0.00113	0.00100 U	0.00500 M
	04/25/02	NA	NA	NA	NA	NA	0.00100 U	NA	NA	NA	NA
	07/29/02	NA	NA	NA	NA	NA	0.00100 M	NA	NA	NA	NA
	10/30/02	NA	NA	NA	NA	NA	0.00438	NA	NA	NA	NA
	01/29/03	0.00503	0.0791	0.00100 M	0.00102	0.00200 M	0.00100 M	0.000200 M	0.00100 M	0.00100 M	0.00500 M
	04/30/03	0.00511	0.0759	0.00100 M	0.00100 M	0.00200 M	0.00100 M	0.000200 M	0.00137	0.00100 M	0.00540
	07/29/03	0.0388	0.107	0.00500 M	0.00733	0.00679	0.00177	0.000200 M	0.00500 M	0.00500 M	0.0196
MW-4-DUP	10/30/02	NA	NA	NA	NA	NA	0.00607	NA	NA	NA	NA
MW-5	02/01/02	0.00342	0.14	0.00100 M	0.00611	0.0161	0.00809	0.000200 U	0.00100 M	0.00100 U	0.0356
	04/24/02	NA	NA	NA	NA	NA	0.00976	NA	NA	NA	NA
	07/30/02	NA	NA	NA	NA	NA	0.00722	NA	NA	NA	NA
	01/28/03	0.00246	0.0801	0.00100 M	0.00316	0.00675	0.00475	0.000800 M	0.00100 M	0.00100 M	0.0222
	04/30/03	0.00195	0.0637	0.00100 M	0.00210	0.00662	0.00387	0.000200 M	0.00100 M	0.00100 M	0.0170
MW-6	02/01/02	0.0403	0.204	0.00189	0.00163	0.0069	0.00265	0.000200 U	0.00100 M	0.00100 U	0.0486
	04/24/02	NA	NA	NA	NA	NA	0.00143	NA	NA	NA	NA
	01/29/03	0.0465	0.182	0.00100 M	0.00253	0.00724	0.00651	0.000200 M	0.00100 M	0.00100 M	0.0617
	04/29/03	0.0391	0.0961	0.00100 M	0.00100 M	0.00200	0.00100 M	0.000200 M	0.00100 M	0.00100 M	0.00619
MW-7	01/31/02	0.00339	0.0786	0.00100 M	0.00294	0.00673	0.00214	0.000200 U	0.00100 M	0.00100 U	0.014
	04/24/02	NA	NA	NA	NA	NA	0.00240	NA	NA	NA	NA
	07/29/02	NA	NA	NA	NA	NA	0.00735	NA	NA	NA	NA
	10/29/02	NA	NA	NA	NA	NA	0.0346	NA	NA	NA	NA
	01/28/03	0.00161	0.0574	0.00100 M	0.00100 M	0.00318	0.00106	0.000200 M	0.00100 M	0.00100 M	0.00763
	04/29/03	0.00171	0.0629	0.00100 M	0.00174	0.00396	0.00219	0.000200 M	0.00100 M	0.00100 M	0.0135
	07/29/03	0.00500 M	0.0735	0.00500 M	0.00676	0.00675	0.00223	0.000200 M	0.00500 M	0.00500 M	0.0166
MW-8	02/01/02	0.00884	0.0396	0.00100 M	0.00100 M	0.00100 M	0.01160	0.000200 U	0.00100 M	0.00100 U	0.00500 M
	04/25/02	NA	NA	NA	NA	NA	0.00761	NA	NA	NA	NA
	07/29/02	NA	NA	NA	NA	NA	0.00510	NA	NA	NA	NA
	10/30/02	NA	NA	NA	NA	NA	0.00495	NA	NA	NA	NA
	01/29/03	0.00530	0.0348	0.00100 M	0.00100 M	0.00200 M	0.0147	0.000200 M	0.00100 M	0.00100 M	0.00979
	04/30/03	0.00560	0.0265	0.00100 M	0.00100 M	0.00200 M	0.00900	0.000200 M	0.00100 M	0.00100 M	0.0121
	07/29/03	0.00922	0.106	0.00500 M	0.00500 M	0.00500 M	0.00355	0.000200 M	0.00500 M	0.00500 M	0.0172

TABLE 4
GROUNDWATER ANALYTICAL - TOTAL METALS
 Kinder Morgan Liquid Terminals LLC
 Linnton Terminal
 Portland, Oregon

Sample ID	Sample Date	Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Selenium (mg/L)	Silver (mg/L)	Zinc (mg/L)
MW-9	02/01/02	0.0384	0.288	0.00100 M	0.0228	0.048	0.02390	0.000200 U	0.00133	0.00100 M	0.106
	04/25/02	NA	NA	NA	NA	NA	0.00102	NA	NA	NA	NA
	07/29/02	NA	NA	NA	NA	NA	0.03840	NA	NA	NA	NA
	10/30/02	NA	NA	NA	NA	NA	0.0802	NA	NA	NA	NA
	01/29/03	0.0308	0.0806	0.00100 M	0.00265	0.00462	0.00273	0.000200 M	0.00100 M	0.00100 M	0.0162
	04/30/03	0.0352	0.0889	0.00100 M	0.00306	0.00530	0.00390	0.000200 M	0.00100 M	0.00100 M	0.0199
	07/30/03	0.0570	0.351	0.00500 M	0.0359	0.0645	0.0351	0.000200 M	0.00500 M	0.00500 M	0.177
MW-10	02/01/02	0.00576	0.0204	0.00100 U	0.00149	0.00200 M	0.00308	0.000200 U	0.00100 M	0.00100 U	0.00563
	04/25/02	NA	NA	NA	NA	NA	0.00648	NA	NA	NA	NA
	11/27/02*	0.0187	0.553	0.00286	0.107	0.167	0.153	0.000200 U	0.00208	0.00122	0.465
	04/30/03	0.00672	0.0600	0.00100 M	0.00661	0.0116	0.0477	0.000200 M	0.00100 M	0.00100 M	0.0421
	07/30/03	0.00500 M	0.0254	0.00500 M	0.00520	0.00500 M	0.0123	0.000200 M	0.00500 M	0.00500 M	0.0155
MW-10-Dup	02/01/02	0.00465	0.0128	0.00100 U	0.00103	0.00200 M	0.00226	0.000200 U	0.00100 U	0.00100 U	0.00500 M
MW-12	01/31/02	0.0594	0.0804	0.00100 U	0.00138	0.00200 M	0.00175	0.000200 U	0.00100 M	0.00100 U	0.00500 M
	04/25/02	NA	NA	NA	NA	NA	0.00444	NA	NA	NA	NA
	07/29/02	NA	NA	NA	NA	NA	0.00860	NA	NA	NA	NA
	10/29/02	NA	NA	NA	NA	NA	0.0208	NA	NA	NA	NA
	01/28/03	0.0576	0.0886	0.00100 M	0.00337	0.00396	0.00618	0.000200 M	0.00100 M	0.00100 M	0.0115
	04/29/03	0.0624	0.0836	0.00100 M	0.00219	0.00300	0.00496	0.000200 M	0.00100 M	0.00100 M	0.0144
	07/29/03	0.0636	0.0476	0.00500 M	0.00500 M	0.00500 M	0.00187	0.000200 M	0.00500 M	0.00500 M	0.00500 M
MW-12-Dup	07/29/02	NA	NA	NA	NA	NA	0.00768	NA	NA	NA	NA
MW-13	01/31/02	0.0551	0.254	0.00100 U	0.0156	0.0259	0.0138	0.000200 U	0.00100 M	0.00100 U	0.0648
	04/25/02	NA	NA	NA	NA	NA	0.0109	NA	NA	NA	NA
	07/29/02	NA	NA	NA	NA	NA	0.4170	NA	NA	NA	NA
	10/29/02	NA	NA	NA	NA	NA	2.59	NA	NA	NA	NA
	01/28/03	0.0608	0.0951	0.00100 M	0.00280	0.00422	0.00451	0.000200 M	0.00100 M	0.00100 M	0.0233
	04/29/03	0.0511	0.214	0.00100 M	0.0112	0.0174	0.0160	0.000200 M	0.00100 M	0.00100 M	0.195
	07/29/03	0.0397	0.0919	0.00500 M	0.00510	0.00500 M	0.00221	0.000200 M	0.00500 M	0.00500 M	0.0220
MW-13 Dup	01/31/02	0.0543	0.266	0.00100 U	0.0177	0.0279	0.0145	0.000200 U	0.00100 M	0.00100 M	0.0764
	04/25/02	NA	NA	NA	NA	NA	0.0150	NA	NA	NA	NA
	10/29/02	NA	NA	NA	NA	NA	2.02	NA	NA	NA	NA
	01/28/03	0.0608	0.0949	0.00100 M	0.00299	0.00361	0.00409	0.000200 M	0.00100 M	0.00100 M	0.0133

TABLE 4
GROUNDWATER ANALYTICAL - TOTAL METALS
Kinder Morgan Liquid Terminals LLC
Linnton Terminal
Portland, Oregon

Sample ID	Sample Date	Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Selenium (mg/L)	Silver (mg/L)	Zinc (mg/L)
MW-14	01/31/02	0.0165	0.456	0.00100 M	0.0402	0.078	0.0332	0.000200 U	0.00100 M	0.00100 M	0.199
	04/24/02	NA	NA	NA	NA	NA	0.0140	NA	NA	NA	NA
	07/30/02	NA	NA	NA	NA	NA	0.2520	NA	NA	NA	NA
	10/29/02	NA	NA	NA	NA	NA	0.103	NA	NA	NA	NA
	01/29/03	0.0149	0.341	0.00100 M	0.0364	0.0604	0.0269	0.000200 M	0.00100 M	0.00100 M	0.168
	04/29/03	0.00954	0.328	0.00100 M	0.0228	0.0466	0.0231	0.000200 M	0.00100 M	0.00100 M	0.186
	07/29/03	0.00500 M	0.0485	0.00500 M	0.00500 M	0.00520	0.00100 M	0.000200 M	0.00500 M	0.00500 M	0.0148
	MW-15	0.00951	0.262	0.00100 M	0.0224	0.0355	0.0133	0.000200 U	0.0011	0.00100 U	0.0936
MW-15 DUP	04/24/02	NA	NA	NA	NA	NA	0.0754	NA	NA	NA	NA
	07/30/02	NA	NA	NA	NA	NA	0.2270	NA	NA	NA	NA
	10/29/02	NA	NA	NA	NA	NA	0.0190	NA	NA	NA	NA
	01/29/03	0.0113	0.299	0.00100 M	0.0329	0.0464	0.0197	0.000200 M	0.00100 M	0.00100 M	0.142
	04/29/03	0.00359	0.0986	0.00100 M	0.00965	0.0109	0.00529	0.000200 M	0.00100 M	0.00100 M	0.0331
	07/29/03	0.0361	1.34	0.0500 M	0.0858	0.145	0.0798	0.000200 M	0.0500 M	0.0500 M	0.553
	04/29/03	0.00322	0.0842	0.00100 M	0.00894	0.00905	0.00409	0.000200 M	0.00100 M	0.00100 M	0.0288
	07/29/03	0.0239	0.765	0.00500 M	0.0538	0.0971	0.0492	0.000200 M	0.00500 M	0.00500 M	0.274
MW-16	02/01/02	0.116	0.354	0.00100 M	0.0465	0.0508	0.0312	0.000200 U	0.00100 M	0.00100 M	0.144
	04/25/02	NA	NA	NA	NA	NA	0.00998	NA	NA	NA	NA
	07/30/02	NA	NA	NA	NA	NA	0.120	NA	NA	NA	NA
	11/27/02*	0.120	3.69	0.00100 U	0.610	0.546	0.323	0.000265	0.00100 U	0.00100 U	1.40
	01/28/03	0.0908	0.104	0.00100 M	0.00704	0.00652	0.00702	0.000400 M	0.00100 M	0.00100 M	0.0216
	04/29/03	0.0895	0.0885	0.00100 M	0.00696	0.00764	0.00828	0.000200 M	0.00100 M	0.00100 M	0.0247
	7/29/2003	0.116	5.83	0.100 M	0.718	0.764	0.466	0.000854	0.100 M	0.100 M	2.18
	MW-16-Dup	NA	NA	NA	NA	NA	0.126	NA	NA	NA	NA
MW-17	01/28/03	0.0891	0.135	0.00100 M	0.0121	0.0116	0.0106	0.000400 M	0.00100 M	0.00100 M	0.0367
	01/31/02	0.00574	0.209	0.00100 U	0.00604	0.00954	0.00374	0.000200 U	0.00100 U	0.00100 U	0.0242
	04/24/02	NA	NA	NA	NA	NA	0.0106	NA	NA	NA	NA
	07/30/02	NA	NA	NA	NA	NA	0.0801	NA	NA	NA	NA
	10/30/02	NA	NA	NA	NA	NA	0.115	NA	NA	NA	NA
	01/29/03	0.00858	0.161	0.00100 M	0.0116	0.0177	0.0106	0.000200 M	0.00100 M	0.00100 M	0.0558
	04/29/03	0.0109	0.133	0.00100 M	0.00694	0.0110	0.00589	0.000200 M	0.00117	0.00100 M	0.0358
	07/29/03	0.0338	0.477	0.00500 M	0.0461	0.0865	0.0465	0.000200 M	0.00500 M	0.00500 M	0.218
MW-17 DUP	04/29/03	0.0119	0.148	0.00100 M	0.00738	0.0120	0.00679	0.000200 M	0.00124	0.00100 M	0.0417
	07/29/03	0.0213	0.203	0.00500 M	0.0170	0.0311	0.0139	0.000200 M	0.00500 M	0.00500 M	0.0733

TABLE 4
GROUNDWATER ANALYTICAL - TOTAL METALS
Kinder Morgan Liquid Terminals LLC
Linnton Terminal
Portland, Oregon

Sample ID	Sample Date	Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Selenium (mg/L)	Silver (mg/L)	Zinc (mg/L)
MW-18	04/25/02	NA	NA	NA	NA	NA	0.0362	NA	NA	NA	NA
	07/29/02	NA	NA	NA	NA	NA	0.0094	NA	NA	NA	NA
	10/30/02	NA	NA	NA	NA	NA	0.0460	NA	NA	NA	NA
	01/29/03	0.00255	0.0930	0.00100 M	0.00340	0.00593	0.00269	0.000200 M	0.00100 M	0.00100 M	0.0178
	04/29/03	0.00935	0.329	0.00100 M	0.0248	0.0363	0.0230	0.000200 M	0.00100 M	0.00100 M	0.118
	07/30/03	0.0386	0.758	0.00500 M	0.0734	0.121	0.0655	0.000200 M	0.00500 M	0.00500 M	0.342
MW-18 Dup	04/25/02	NA	NA	NA	NA	NA	0.0294	NA	NA	NA	NA
MW-20	05/01/03	0.00887	0.0290	0.00100 M	0.00156	0.00213	0.00230	0.000200 M	0.00100 M	0.00100 M	0.00834
	07/30/03	0.0149	0.107	0.00500 M	0.0131	0.0226	0.00896	0.000200 M	0.00500 M	0.00500 M	0.0442
MW-21	05/01/03	0.00571	0.108	0.00100 M	0.0123	0.0237	0.0297	0.000200 M	0.00100 M	0.00100 M	0.0641
	07/30/03	0.0119	0.120	0.00500 M	0.0134	0.0621	0.0269	0.000200 M	0.00500 M	0.00500 M	0.0467
MW-22	05/01/03	0.00377	0.0146	0.00100 M	0.00100 M	0.00200 M	0.00100 M	0.000200 M	0.00100 M	0.00100 M	0.00500 M
	07/30/03	0.0148	0.114	0.00500 M	0.0143	0.0195	0.0121	0.000200 M	0.00500 M	0.00500 M	0.0493
RW-1	11/26/02*	0.0168	0.183	0.00100 U	0.00852	0.01990	0.00798	0.000200 U	0.00100 U	0.00100 U	0.0868
RW-2	11/26/02*	0.00760	0.206	0.00385	0.0104	0.0226	0.0105	0.000200 U	0.00100 U	0.00100 U	0.0795
RW-3	11/26/02*	0.00444	0.132	0.00100 U	0.00276	0.00711	0.00270	0.000200 U	0.00133	0.00100 U	0.0129

NOTES:

Total Metals analyzed by USEPA Method 6000/7000 Series Method

mg/l = Milligrams per liter

NA = Not Analyzed

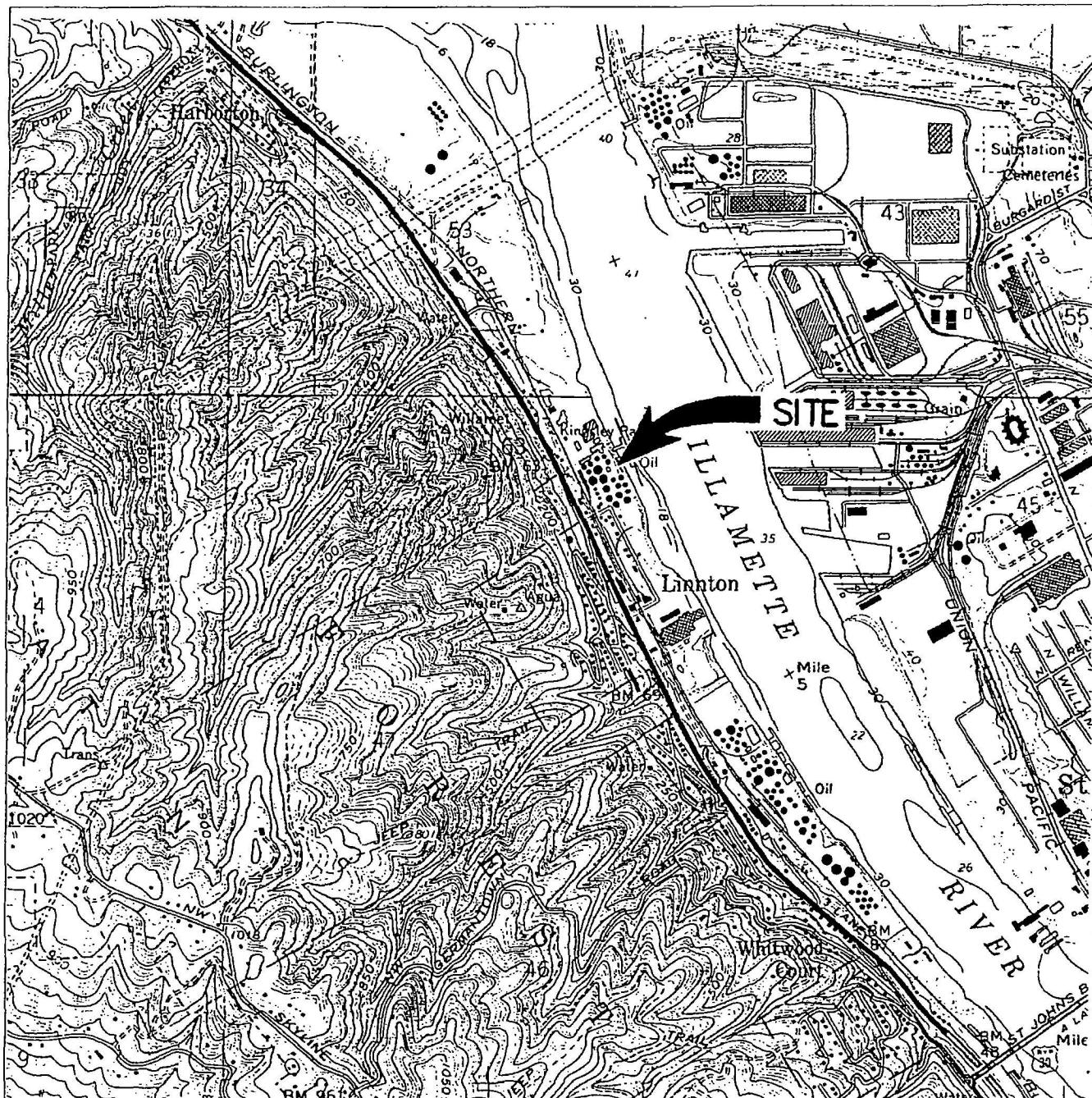
J = Estimated Value

U = Analyte included in the analysis but not detected above laboratory method detection limits (MDLs)

M = Analyte included in the analysis but not detected above laboratory method reporting limits (MRLs)

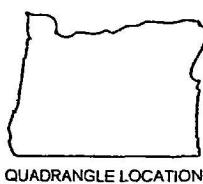
Bold Face Font = Analyte detected above the MRLs

* = Additional RI Sampling



REFERENCE: USGS 7.5 MINUTE TOPOGRAPHIC MAP
 LINNTON, OREGON, 1961
 PHOTOREVISED 1984

SCALE 1 : 25,000



North

FIGURE 1

SITE LOCATION MAP

KINDER MORGAN LIQUID TERMINALS, LLC
 11400 NW ST. HELENS ROAD
 LINNTON, OREGON

PROJECT NO. E30-01G	DRAWN BY CRF
FILE NO.	PREPARED BY CRF
REVISION NO.	REVIEWED BY



QUADRANGLE LOCATION

